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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,445	11/28/2001	John Border	PD-201191	2403

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EXAMINER

STRANGE, AARON N

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,445

Applicant(s)

BORDER ET AL.

Examiner

Aaron Strange

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12, 14-19, 21-26 and 28-39 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5, 7-12, 14-19, 21-26 and 28-39 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/20/2005 have been fully considered but they are not persuasive.
2. With regard to claims 22-28, and Applicant's assertion that these claims are statutory since they have "a practical application" (Page 11, Lines 4-5 of Remarks), the Examiner respectfully disagrees. Applicant has cited O'Reilly, 56 U.S. at 114-19 and In re Breslow, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980) in support of the assertion. However, those cases merely state that a signal claim cannot be held to be non-statutory merely because of its transitory nature.

In the present case, claims 22-28 were and are rejected for being intangible, and were not rejected for being transitory. Therefore, the cited cases do not apply in the present instance.

A claim to a computer program requires that the program *necessarily* be tangibly embodied on a computer readable medium. Mediums such as carrier waves, acoustic waves, and radio waves are not tangible mediums. If and claimed medium *may* include an intangible embodiment, then the claim is non-statutory. As discussed in the Office action of 1/21/2005 and the present action, claims 22-28 include multiple intangible embodiments, and are therefore non-statutory.

3. Applicant's arguments with respect to claims 1-5, 7-12, 14-19, 21-26, and 29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-39 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. With regard to claim 1, the limitation "in accordance with the cookie" is not described in the specification. While the specification mentions including a cookie in a read-ahead request, it does not describe forwarding an object "in accordance with the cookie". No disclosure is present which describes doing anything in accordance with a cookie.

7. Claims 8, 15, 22, and 35 also include the limitation "in accordance with the cookie", and are rejected for the same reasons as claim 1.

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8. With regard to claim 1, the limitation "include the cookie in a read-ahead request to retrieve the content from the content server" is not described in the specification. The specification describes including the cookie in read-ahead requests to retrieve embedded objects, but not the content itself (Par 39 of the present application).

9. Claims 8, 15, 22, and 35 include a similar limitation "retrieving the content specifying an object based on the read-ahead request", and they are rejected under similar rationale as claim 1.

10. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 37 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. With regard to claim 37, the limitation "wherein the object is forwarded if the object is cacheable" is unclear. It is unclear what entity is forwarding the object or where it is being forwarded to, since no mention of forwarding appears in claim 35, from which claim 37 depends. It appears that Applicant is referring to "forwarding" the object from

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the upstream server to the downstream server, as claimed in the other independent claims, but the language of claim 35 is inconsistent with this, as claim 35 recites "receiving, from the upstream server, the object".

14. With regard to claim 38, the limitation "forwarding the message" is unclear. It is unclear if this is the same operation as "transmitting the message", appearing in claim 35, or an additional step in the method.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1,7,8,14,15,21,22,28,29,31,32,34-36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies").

17. With regard to claim 1, Carneal discloses a communication system comprising: a downstream proxy server (access point) configured to communicate with a client (web browsers connect to access point) (Col 7, Lines 61-63) that is configured to transmit a message requesting content (web page) specifying an object (inline object) from a

content server (Col 8, Lines 7-14), and an upstream proxy server (satellite gateway) configured to retrieve the content from the content server and to forward the object over a data network to the downstream proxy server prior to the client transmitting another message requesting the object (Col 8, Lines 29-42). However, Carneal fails to specifically disclose that the client request includes a cookie, including the cookie in the request to the content server, or forwarding the object in accordance with the cookie.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response.

18. With regard to claim 7, Carneal further discloses that the content conforms with a markup language that includes Hypertext Markup Language (HTML) (web pages) (Col 8, Lines 7-10). Carneal discloses that the web pages being fetched conform with HTML (Col 1, Line 59-Col 2, Line 9).

19. With regard to claims 8, 15, and 22, Carneal further discloses receiving a message, forwarded by a downstream server, from the client (Col 8, Lines 7-14);

retrieving the content (web page) specifying an object (inline object) based on a read-ahead request (Col 8, Lines 14-28); and forwarding the object to the downstream server prior to the client transmitting a message requesting the object (Col 8, Lines 35-37). However, Carneal fails to specifically disclose determining whether the message includes a cookie associated with the client, and including the cookie in a read-ahead request.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response.

20. With regard to claims 14, 21, and 28, Carneal further discloses that the content conforms with a markup language that includes Hypertext Markup Language (HTML) (web pages) (Col 8, Lines 7-10). Carneal discloses that the web pages being fetched conform with HTML (Col 1, Line 59-Col 2, Line 9).

21. With regard to claim 35, Carneal discloses a method of providing content to a client, comprising: receiving a message from a client requesting content (web page)

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specifying an object (inline object) from a content server (Col 8, Lines 7-14); transmitting the message to an upstream server configured to retrieve the content from the content server and receiving, from the upstream server, the object prior to the client transmitting another message requesting the content (Col 8, Lines 29-42). However, Carneal fails to specifically disclose that the client request includes a cookie, including the cookie in the request to the content server, or forwarding the object in accordance with the cookie.

Netscape teaches including cookies in requests for web pages, and teaches forwarding the cookies through proxies with client requests (Page 4, Lines 8-9). This allows clients behind proxies to send state information to servers and receive customized content in response to requests.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to forward cookies contained in client responses through the proxy server to the content server so that the client may send state information to the content server and receive customized content in response.

22. With regard to claims 29,32, and 36, Carneal further discloses receiving a list specifying expected objects corresponding to the content; and blocking requests from the client for objects on the list from being transmitted to the upstream server (Col 8, Lines 40-48).

23. With regard to claims 31,34, and 38, Carneal further discloses explicitly tracking objects stored in a local cache, and forwarding the message only if the object

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associated with the requested content is not stored in the local cache (Col 8, Lines 44-53).

24. Claims 2,9,16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Eilbott et al. (6,553,393).

25. With regard to claims 2,9,16, and 23 while the system disclosed by Carneal and Netscape shows substantial features of the claimed invention (discussed above), it fails to disclose retrieving the object and transmitting the object over a communications link to the downstream server based on a predetermined criteria relating to the object, the predetermined criteria including size of the object or life of the object.

Eilbott teaches selectively prefetching objects based on the size of the object and/or other attributes (Col 7, Lines 50-55). This allows the proxy server to optimize the objects that are prefetched to minimize bandwidth consumption or maximize the speed at which the client may access the objects.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to prefetch objects based on their size or any other relevant attribute so the proxy server can optimize the client sessions.

26. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Sridhar et al. (US 6,266,701).

27. With regard to claim 3, while the system disclosed by Carneal and Netscape shows substantial features of the claimed invention (discussed above), it fails to disclose that the downstream proxy server and the upstream proxy server communicate over a communications link that includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

Sridhar teaches the use of a multiplexed connection of HTTP transactions to increase the efficiency of data transfer of web pages containing embedded objects across a satellite link. This allows multiple data streams to be handled using a single instance of the transfer protocol (Col 12, Lines 25-39 and 52-56), reducing overhead and latency of the connection (Col 5, Lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a multiplexed connection of HTTP transactions to communicate between the upstream and downstream proxy servers. This would have reduced the overhead and latency of the connection when requesting web pages with embedded objects.

28. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Quantum Prime Communications.

29. With regard to claim 4, Carneal further discloses that the data network includes at a satellite network (Col 5, Lines 9-20), but fails to specifically disclose that the network is a Very Small Aperture Terminal (VSAT) satellite network.

Quantum Prime Communications teaches the use of VSAT technology for satellite networks and discloses several advantages of VSAT over conventional terrestrial networks, such as a fixed cost, decreased installation time, and few geographical limitations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the satellite network disclosed by Carneal as a VSAT satellite network since it would have allowed the network to be implemented quickly and without the limitations of terrestrial networks.

30. Claims 10,17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Eilbott et al. (6,553,393) in further view of Sridhar et al. (US 6,266,701).

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31. With regard to claims 3, 10, 17, and 24, while the system disclosed by Carneal, Netscape, and Eilbott shows substantial features of the claimed invention (discussed above), it fails to disclose that the downstream proxy server and the upstream proxy server communicate over a communications link that includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

Sridhar teaches the use of a multiplexed connection of HTTP transactions to increase the efficiency of data transfer of web pages containing embedded objects across a satellite link. This allows multiple data streams to be handled using a single instance of the transfer protocol (Col 12, Lines 25-39 and 52-56), reducing overhead and latency of the connection (Col 5, Lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a multiplexed connection of HTTP transactions to communicate between the upstream and downstream proxy servers. This would have reduced the overhead and latency of the connection when requesting web pages with embedded objects.

32. Claims 11, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Eilbott et al. (6,553,393) in further view of Quantum Prime Communications.

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33. With regard to claims 11, 18, and 25, Carneal further discloses that the data network includes at a satellite network (Col 5, Lines 9-20), but fails to specifically disclose that the network is a Very Small Aperture Terminal (VSAT) satellite network.

Quantum Prime Communications teaches the use of VSAT technology for satellite networks and discloses several advantages of VSAT over conventional terrestrial networks, such as a fixed cost, decreased installation time, and few geographical limitations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the satellite network disclosed by Carneal as a VSAT satellite network since it would have allowed the network to be implemented quickly and without the limitations of terrestrial networks.

34. Claims 5, 12, 19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Marks et al. (US 6,463,447).

35. With regard to claims 5, 12, 19, and 26, while the system disclosed by Carneal shows substantial features of the claimed invention (discussed above), it fails to disclose that the plurality of proxy servers include other downstream proxy servers, the upstream proxy server multicasting the object to the downstream proxy servers over the data network.

Marks teaches the use of a plurality of downstream proxy servers and

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multicasting an object to the downstream proxy servers (local computing resource) (Col 4, Lines 36-41) over the data network (Col 6, Lines 42-64). The use of multiple downstream proxy servers allows more clients to be served by the network since load on the upstream proxy server is reduced when the downstream servers cache the content.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize multiple downstream proxy servers and multicast the requested objects to the servers over the data network. This would have allowed more clients to be served by the network since load on the upstream proxy server is reduced when the downstream servers cache the objects.

36. Claims 30,33,37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al. (US 6,282,542) in view of Netscape ("Persistent Client State HTTP Cookies") in further view of Harrison et al. (US 6,249,914).

37. With regard to claims 30,33,37 and 39, while the system disclosed by Carneal and Netscape shows substantial features of the claimed invention (discussed above), it fails to disclose determining whether the object is cacheable, wherein the object is cacheable or the upstream server determining whether the object is cacheable.

Harrison discloses an upstream proxy server which examines objects retrieved from content servers to determine if they are cacheable. Cacheable objects forwarded to the local data manager for storage. Non-cacheable objects are forwarded to the local

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data manager for generation of an announcement. Examining the cacheability of the data objects by the upstream server would have been an advantageous addition to the system disclosed by Carneal and Netscape since it would have allowed the upstream server to make decisions on how to handle cacheable and non-cacheable objects and determine whether to forward them to the cache.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to examine the retrieved objects to determine if they were cacheable in order to forward them to the appropriate location.

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

39. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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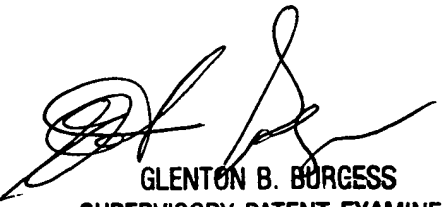
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS
6/24/2005



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